Technology: Microelectronics

Terabeam & YDI combine

Free space optic provider, Terabeam Corp, which used up $500m in the last few years ($450m from Lucent) is merging with Vancouver YDI Wireless Inc. The merger is a market capitalisation of under $100m. The deal' s value is variable. At best, Terabeam shareholders would get 47% of outstanding shares of the combined company. YDI, valued at a$90m with only 100 employees could take a substantial amount of Tera-beam's cash, in exchange for stock. Terabeam has cash and equivalents of $60.3m: assets of $74.3m: liabilities of $14.2 million, and stockholders' equity of $60.1m.

PA shipments

RF Micro Devices Inc has begun high volume production shipments of its RF3163 CDMA power amplifier (PA) module to a top-two CDMA handset OEM, with a Korean HQ.

The GaAs HBT CDMA power amplifier module with a 3x3x0.9mm package is designed around patent pending Lead Frame Module packaging.

This reduces component count, product size and total cost of surface mount device placement, integrating functionality of passive components into the GaAs die manufactured by RFMD.

LFM technology products do not require laminate, LTCC substrates or surface mount components, simplifying the production supply chain and decreasing manufacturing lead time.

InGaP HBTs

Anadigics Inc has begun shipping its InGaP, HBT, WLAN, power amplifiers (PAs) to a leading supplier of WLAN chipsets for PC notebooks.

The RFS P2023 was selected because it achieves higher power efficiencies in all operating modes. This ensures greater data throughput and longer battery life. The PA meets 802.11b adjacent channel power ratio requirements at 23 dBm output drawing 220mA of current. For 802.11g, the device achieves <3% EVM at output power of 19dBm and current consumption of 145mA. The 3x3mm LPCC package operates from a single 3.3V power supply.

Lead-free SPDT GaAs switch

M/A-COM Inc, a business unit of Tyco Electronics and provider of RF, microwave and millimeter wave components, has a new lead-free low-loss SPDT GaAs switch.

The MASWSS0115 provides low-loss switching for the transmit/receive function in 802.11b WLAN applications and for low power general-purpose RF applications in a small SOT-363 (6-lead SC-70) package.

The MASWSS0115 is priced below 18c each in quantities of 50,000 and available on 3,000 piece reels.

LHM focus device for snowploughs

Engineers in California have patented a radar device that can spot objects buried in snow. The invention is designed to help snowploughs steer clear of rocks and curbs, and could be used to help dig victims out from avalanches.

Conventional radar finds it hard to see through snow, says Ty Lasky of the University of California, Davis, who led the research. Many systems provide a blurry picture, thanks to the layers of salt and dirt present in roadside drifts. Radar waves at a frequency of about 1Ghz can 'see' through these layers. Unfortunately, these waves, with about 30cm length, offer insufficient resolution for spotting objects such as small rocks and tyre chains under snow.

To get around this problem, the team used 'left-handed' materials as a focusing device. These bend waves in the opposite direction to most lenses. This effect can be used to create a radar beam that is effectively narrower than the wavelength of its constituent waves. The result could be used to provide a full picture of objects beneath the snow, says Lasky, rather than simply telling plough operators that there is 'something' in the road up ahead. "We're not trying simply to see if there's something there - we want to use it as an imaging device," he says.

Lasky envisages developing the system so that a screen in the snowplough cab can show the driver exactly what's under the snow. "Our system should give a picture, albeit a slightly fuzzy one - a bit like looking through water."